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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/845,185	05/01/2001	Tomonori Kojima	K-1976	2548

7590 08/09/2002

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EXAMINER
NGUYEN, TRAN N

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 08/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/845,185	KOJIMA ET AL.	
	Examiner	Art Unit	
	Tran N. Nguyen	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *12 July 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) *11-14* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *5/01/01* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Amendment

The preliminary amendement filed on 5/1/01 was not entered due to non-compliant amendment. This office action is based on the amendment filed on 10/2/02 and the election filed on 7/12/02.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "***plurality of recesses***" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Election/Restriction

2. Applicant's election of claims 1-10 in Paper No. 7, filed on 7/12/02, is acknowledged. Since Applicant did not provide any traversal arguments to the restriction requirement, the response is considered as election without traverse; therefore, the election/restriction is made FINAL.

Claim Rejections - 35 USC § 112

3. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 3, "said plurality of protruded portions" indefinite because claim 2, from which claim 3 depends, recites "a protruded portion", i.e., a single one portion not two or more protruded portions. Thus, claim 3 is indefinite and lacks antecedent basis.

In claim 6, "baking means" is indefinite because what is a "baking means" is thermosetting resin?

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 1-4, 7 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Itaya (US 5500994) in view of Matsumoto et al (US 5698633).

Itaya discloses various embodiments (figs 1, 8-12) of a rotor having: a shaft (5) at the center; a molded plastic cushioning member (31) with a displacement absorbing member (35); and a permanent magnet (PM) ring (32) with a plurality of protruded portions (36B), wherein the PM and the shaft are integrally coupled through the cushioning member. Itaya substantially as the claimed invention, except for the limitations of the cushioning member formed of rubber, particularly chloroprene rubber.

Matsumoto, however, teaches that the chloroprene rubber having good processable composition and can be molded and vulcanized. Particularly the vulcanized chloroprene rubber

is a good vibration damping material, which can be widely used for supports vibration generating objects.

Those skilled in the art would realize that, the Matsumoto's important teaching of the chloroprene rubber is that the material has excellent vibration damping characteristics for being widely used in supporting vibrating objects. When the Itaya's rotor is in operation, the centrifugal force of the rotor would generate vibration upon the rotor. Itaya's cushioning member which is a made of plastic. Plastic is known for its resilient, vibration damping characteristics. However, in view of the Matsumoto's teaching, it would have been obvious to an artisan to select chloroprene rubber as the material for the Itaya's cushioning member.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the Itaya's rotor structure by selecting chloroprene rubber, as taught by Matsumoto, as the material of the cushioning member. Doing so would enhance the vibration damping function of the cushioning member in the rotor assembly during the rotor's operation.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select chloroprene rubber, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin, 125 USPQ 416.*

5. **Claims 1 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Onda (US 4206379), in view of Matsumoto et al (US 5698633).

Onda (figs 1-2) substantially discloses a rotor as in the claimed invention, except for the material of the cushioning member to be rubber, particularly chloroprene rubber.

Matsumoto, however, teaches that the chloroprene rubber having good processable composition and can be molded and vulcanized. Particularly the vulcanized chloroprene rubber is a good vibration damping material, which can be widely used for supports vibration generating objects.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the Onda's rotor structure by selecting chloroprene rubber, as taught by Matsumoto, as the material of the cushioning member. Doing so would enhance the vibration damping function of the cushioning member in the rotor assembly during the rotor's operation.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select chloroprene rubber, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin, 125 USPQ 416.*

6. **Claims 2-4** are rejected under 35 U.S.C. 103(a) as being unpatentable over Onda and Matsumoto et al, further in view of Itaya (US 5500994).

The combination of **Onda and Matsumoto** refs substantially discloses the claimed invention, except for the added limitations of the PM having a plurality of protruded portions on an inner peripheral surface thereof for entering the cushioning member as anchors.

Itaya, however, teaches the rotor assembly (figs 8-12) having: a molded plastic cushioning member (31); a permanent magnet (PM) ring (32) with a plurality of protruded portions (36B) acting as anchors entering the molded cushioning member for securely enhancing the abutment between the PM ring and the cushioning member.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the Onda's rotor structure by configuring the PM ring with a plurality of protruded portions on an inner peripheral surface thereof for entering the cushioning member as anchors, as taught by Itaya. Doing so would enhance the securely abutment between the PM ring and the cushioning member resulting in improving the rotor structure integrity.

7. **Claims 7-9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Onda, Matsumoto et al and Itaya, and further in view of Higuchi et al (EP 633647).

The combination of **Onda, Matsumoto and Itaya** refs substantially discloses the claimed invention, except for the added limitations of the displacement absorbing means, particularly a plurality of through holes or recesses, formed in the cushioning member in parallel with the shaft.

Higuchi, however, teaches a rubber vibration isolator (7) having a plurality of holes (7a) that would increase the surface area resulting in increasing heat dissipation area for reducing temperature, which may harden the rubber vibration isolator. Thus, providing a plurality of through holes would increase the vibration damping rubber's duration.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the rotor by configuring a plurality of through holes in the body of the cushioning member, as taught by Higuchi. Doing so would enhance the vibration damping effect by improving duration of the device via air circulation.

Regarding the displacement absorbing means formed as a plurality of recesses, the Higuchi's important teaching is that to increase the surface area of the vibration isolator for increasing heat dissipation thereof. Those skilled in the art would realize that, by applying this essential teaching of Higuchi, it would have been obvious to an artisan to increase the heat dissipating surface area by various configurations, including a plurality of recesses.

Thus, by applying the Higuchi's essential teaching, it would have been obvious to one skilled in the art at the time the invention was made to modify the rotor by configuring a plurality of surface areas, such as a plurality of recess, for increasing heat dissipation thereof in order to improve duration of the device. Configuring a plurality recesses, i.e., no-through holes, instead of a plurality of through holes requires only ordinary skills in the art. It has been held that a change in size or shape is generally recognized as being within the level of ordinary skill in the art. ***In re Rose,* 105 USPQ 237 (CCPA 1955)** (emphasis added).

8. **Claims 5-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Itaya and Matsumoto et al, or the combination of Onda and Matsumoto, and further in view of level of ordinary skills of a worker in the art.

The combination of Itaya and Matsumoto et al, *or the combination of Onda and Matsumoto*, substantially discloses the claimed invention, except for the added limitations of the join of the PM ring and the shaft to the cushioning member reinforced with adhesive, as in claim 5, or with thermosetting resin, as claim 6 is understood.

Those skilled in the art would know that adhesive, or thermosetting adhesive, is a well known material for affixing two structural components. In this particular assembly, the adhesive would be selected to further reinforce the abutment of the PM ring, the shaft and the cushioning because no additional fastening part is needed. Also, adhesive such as resin is nonmagnetic conductive material, which would not interfere with the magnetic field of the rotor.

Thus, it would have been obvious to one skilled in the art at the time the invention was made reinforce the abutment of the PM ring and the shaft to the cushioning member reinforced with adhesive, which is a well known bonding material in the art. Doing so would improve the rotor's structure integrity without added additional fastening part.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran N Nguyen whose telephone number is (703) 308-1639. The examiner can normally be reached on M-F 6:00AM-2:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703)-308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3431 for regular communications and (703)-395-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-1782.

TRAN NGUYEN
PRIMARY PATENT EXAMINER
TC-2800